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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LAI, MICHAEL C

ART UNIT	PAPER NUMBER
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2157

MAIL DATE	DELIVERY MODE
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12/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/692,428

Applicant(s)

SCHIEBER ET AL.

Examiner

Michael C. Lai

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 7-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-24, 26-27, 33-35 is/are rejected.
- 7) ☐ Claim(s) 25 and 28-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12 mar 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to amendment filed on 10/01/2007. Claims 1-3, 7-35 have been examined.

Response to Amendment

2. The examiner has acknowledged the amended claims 1, 7, 21, 30 and 33-35.

Response to Arguments

3. Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

4. The term "proper" in claim 27 is a relative term which renders the claim indefinite. The term "proper" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claim 33 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 33 recites the limitation of "computer-readable medium..." that is described in paragraph 0078 of original specification as "Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and

transmission media. Non-volatile media includes, for example, optical or magnetic disks, such as storage device 510. Volatile media includes dynamic memory, such as main memory 506. Transmission media includes coaxial cables, copper wire and fiber optics, including the wires that comprise bus 502. Transmission media can also take the form of acoustic or light waves, such as those generated during radio-wave and infra-red data communications.” and in paragraph 0079 “Common forms of computer-readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, or any other magnetic medium, a CD-ROM, any other optical medium, punchcards, papertape, any other physical medium with patterns of holes, a RAM, a PROM, and EPROM, a FLASH-EPROM, any other memory chip or cartridge, a carrier wave as described hereinafter, or any other medium from which a computer can read.” As such, the claim covers embodiments directed to signals and waves, per se. These claims are being rejected as non-statutory as directed to a form of energy rather than a patent-eligible machine, manufacture, process or composition of matter.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 7-12, 16-24, 26-27, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff (US 6,185,601 B1, hereinafter Wolff), and in view of Coughlin (US 2004/0024861 A1, hereinafter Coughlin).

Regarding claim 1, Wolff discloses a method [col. 11, lines 24-41] comprising the steps of:

monitoring the server's performance [col. 11, lines 24-34];

detecting when the server's performance is worse than a failover threshold [col. 11, lines 34-36]; and

sending a message to one or more clients indicating that one or more clients should failover to an alternate server [col. 11, lines 37-41].

Wolff discloses an I/O utilization threshold monitoring, but is silent about monitoring/measuring one or more parameters selected from the group consisting of a currently available number of threads, a maximum number of available threads, memory usage percentage, and a number of processes running. However, Coughlin teaches monitoring memory usage percentage for load balancing purpose [para. 0062]. Also it is well known in the art that Microsoft Windows (e.g., XP) Task Manager monitors total numbers of threads, processes, and available memory under the Performance tab. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to incorporate Coughlin's or Microsoft's teaching into Wolff's method to monitor one or more parameters selected from the group consisting of a currently available number of threads, a maximum number of available threads,

memory usage percentage, and a number of processes running. The motivation would be taking into consideration the operational load on each server so that the overall system performance may be maximized.

Regarding claim 7, Wolff-Coughlin disclose the method of claim 1 but silent about measuring the availability of mandatory services and dependent services. Official Notice is taken for measuring the availability of mandatory services and dependent services. Measuring the availability of mandatory services and dependent services is well known in the art. For example, in Microsoft Windows XP, Network Connections Service is mandatory and dependent upon Remote Procedure Call service. Both services are monitored in Windows Task Manager as discussed above. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to measure the availability of mandatory services and dependent services as these services are vital to the functionalities of the server.

Regarding claim 8, Wolff-Coughlin disclose the method of claim 1, Wolff further discloses comprising the step of determining the one or more clients to which to send the message based on a predefined list of clients [col. 23 line 61 – col. 25 line 67].

Regarding claim 9, Wolff-Coughlin disclose the method of claim 1, but silent about sending the message based on a network device group. However it would have been obvious to one of ordinary skill in the art at the time of invention to comprise the step of determining the one or more clients to which to send the

message based on a network device group, as it help managing the clients in an organized manner.

Regarding claim 10, Wolff-Coughlin disclose the method of claim 1, Wolff further discloses the step of determining the one or more clients to which to send the message based on network topology because this is one of the most efficient ways to send messages [col. 57, line 60 – col. 58, line 7].

Regarding claim 11, Wolff-Coughlin disclose the method of claim 1, Wolff further discloses the step of determining the alternate server based on a list configured on each of said one or more clients [col. 23 line 61 – col. 25 line 67].

Regarding claim 12, Wolff-Coughlin disclose the method of claim 1, Wolff further discloses the message that is sent to said one or more clients comprises a list or more alternate servers to which said one or more clients can failover [col. 23 line 61 – col. 25 line 67].

Regarding claim 16, Wolff-Coughlin disclose the method of claim 1, Coughlin further discloses comprising the step of connecting with a second client [para. 0012].

Regarding claim 17, Wolff-Coughlin disclose the method of claim 16, Coughlin further discloses comprising the step of initiating the step of connecting based on a request from the second client [para. 0012].

Regarding claim 18, Wolff-Coughlin disclose the method of claim 17, Wolff further discloses comprising the step of initiating the step of connecting based on a timeout mechanism configured on the second client [col. 33, lines 19-48].

Regarding claim 19, Wolff-Coughlin disclose the method of claim 16, Coughlin further discloses comprising the step of initiating the step of connecting based on a request by the server [para. 0012].

Regarding claim 20, Wolff-Coughlin disclose the method of claim 19, Coughlin further discloses comprising the step of initiating the step of connecting based on the server's performance being better than a connection threshold [para. 0062].

Regarding claim 21, Wolff-Coughlin disclose the method of claim 20, Coughlin further discloses wherein the step of initiating comprises the step of comparing the connection threshold with a function relating one or more parameters selected from the group consisting of server related parameters, system related parameters, and availability of services on the server [para. 0062, memory utilization and the number of open connections].

Regarding claim 22, Wolff-Coughlin disclose the method of claim 21, but silent about threads. Official Notice is taken for the server related parameters comprise a currently available number of threads and a maximum number of available threads. Monitoring available number of threads and a maximum number of available threads is well known in the art. For example, Microsoft Windows (e.g., XP) Task Manager monitors total numbers of threads, processes, and available memory under the Performance tab. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have the server related parameters comprise a currently available number of

threads and a maximum number of available threads, as threads are very important resources to the server.

Regarding claim 23, Wolff-Coughlin disclose the method of claim 21, Coughlin further discloses wherein the system related parameters comprise CPU usage percentage, memory usage percentage [para. 0062], but silent about number of processes running. Official Notice is taken for number of processes running. Monitoring the number of processes running is well known in the art. For example, Microsoft Windows (e.g., XP) Task Manager monitors total numbers of threads, processes, and available memory under the Performance tab. It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have the server related parameters comprise the number of processes running, as processes are very important resources to the system.

Regarding claim 24, Wolff-Coughlin disclose the method of claim 21 but silent about wherein the services of which the availability is checked on the server comprise services mandatory for correct functioning of the server and services needed for logging on the server. Official Notice is taken for the services of which the availability is checked on the server comprise services mandatory for correct functioning of the server and services needed for logging on the server. Measuring the availability of mandatory services and services needed for logging on the server are well known in the art. For example, in Microsoft Windows XP, Network Connections Service is mandatory and

Performance Logs and Alerts service is needed for logging on the server. Both services are monitored in Windows Task Manager as discussed above.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to check the availability of mandatory services and services needed for logging on the server, as these services are vital to the functionalities of the server.

Regarding claim 26, Wolff-Coughlin disclose the method of claim 1, but silent about wherein said one or more clients comprise all clients connected to said server. However, it would have been obvious to one of ordinary skill in the art at the time of invention to send a message to all clients connected to said server indicating that they should failover to an alternate server so that everyone will be informed about the situation.

Regarding claim 27, Wolff-Coughlin disclose the method of claim 1, but silent about wherein said one or more clients comprise a proper subset of all clients connected to said server. However, it would have been obvious to one of ordinary skill in the art at the time of invention to send a message to a proper subset of all clients connected to said server indicating that they should failover to an alternate server so that everyone needs to know will be informed about the situation.

Claims 33 - 35 are of the same scope as claim 1. They are rejected for the same reason as for claim 1.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff and Coughlin as applied to claim 1, and in view of Sanchez Herrero et al. (US 2003/0217285 A1, hereinafter Sanchez Herrero).

Regarding claim 2, Wolff-Coughlin disclose the method of claim 1, but silent about AAA servers and clients. However, Sanchez Herrero teaches balanced disposition of clients amongst a plurality of AAA servers [para. 0050]. Therefore it would have been obvious to one of ordinary skill in the art to incorporate AAA servers/clients into the system of Wolff-Coughlin at the time of invention such that AAA servers/clients can benefit from dynamic load balancing.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff and Coughlin as applied to claim 1, and in view of Ellis et al. (US 7,185,045 B2, hereinafter Ellis).

Regarding claim 3, Wolff-Coughlin disclose the method of claim 1, but silent about the ICMP Echo message. However, Ellis teaches sending ICMP Echo message to a specified list of devices and setting the corresponding status flag [col. 6, lines 47-61]. Therefore it would have been obvious to one of ordinary skill in the art to incorporate the ICMP Echo message into the system of Wolff-Coughlin since the well known ICMP Echo message is suitable for sending a message with a hash value.

11. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolff and Coughlin as applied to claim 1, and in view of Lindeman et al (US 2003/0009698 A1, hereinafter Lindeman).

Regarding claims 13-15, Wolff-Coughlin doesn't disclose the use of hashed values for checking authentication/authority purposes. However, Lindeman discloses creating a hash value based on a recipient address and an originator address [para. 0014]. Lindeman further discloses a one-way hash algorithm with a shared secret as a key and a combination of source and destination addresses [para. 0032]. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Lindeman into the system of Wolff and Coughlin. The motivation would be adding authentication/authorization to the system.

Allowable Subject Matter

12. Claims 25, 28-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objection made. Applicant must show how the amendments avoid such references and objections. See 37 CFR 1.111(c).

- Murphy et al., US 7,159,234 B1, has taught a system and method for server failover.
- Smith, US 2003/0158933 A1, has taught failover clustering based on input/output processors

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.


In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Lai whose telephone number is (571) 270-3236. The examiner can normally be reached on M-F 8:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael C. Lai
07DEC2007


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